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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Hop Farm\hop farm.urb924

Project Name: Hop Farm

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES							
	ROG	NOX	잉	<u>802</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	42.04	6.04	92.58	0.26	13.36	12.86	7,805.34
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX	잉	<u>802</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	20.67	19.44	198.94	0.53	92.71	17.52	54,741.54
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	STIMATES						
	ROG	NOX	잉	<u>802</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	62.71	25.48	291.52	0.79	106.07	30.38	62,546.88

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>CO2</u>	5,603.12	2,189.93	12.29			7,805.34
PM2.5	0.01	12.83	0.02			12.86
PM10	0.01	13.33	0.02			13.36
<u>802</u>	0.00	0.26	0.00			0.26
잉	1.96	83.06	7.56			92.58
XON	4.40	1.55	60.0			6.04
ROG	0.34	15.78	1.30	17.10	7.52	45.04
ΦI					s	unmitigated)
Source	Natural Gas	Hearth	Landscape	Consumer Products	Architectural Coatings	TOTALS (tons/year, unmitigated)

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	00	802	PM10	PM25	C02
Single family housing	8.08	7.57	78.09	0.21	36.39	6.88	21,514.34
Apartments low rise	0.75	69.0	7.07	0.02	3.30	0.62	1,948.54
Elementary school	0.52	0.27	2.75	0.01	1.25	0.24	739.80
Junior high school	0.91	0.54	5.49	0.01	2.53	0.48	1,494.13
Employment	3.73	3.70	37.67	0.10	17.57	3.32	10,366.14
commercial	6.68	6.67	67.87	0.18	31.67	5.98	18,678.59
TOTALS (tons/year, unmitigated)	20.67	19.44	198.94	0.53	92.71	17.52	54,741.54

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

	Summar	Summary of Land Uses	ses			
Land Use Type	Acreage	Trip Rate	Trip Rate Unit Type	No. Units	Total Trips	
Single family housing	269.67	60.6	9.09 dwelling units	1,709.00	15,534.81	•
Apartments low rise	12.88	6.83	6.83 dwelling units	206.00	1,406.98	
Elementary school		1.29	students	00.009	774.00	
Junior high school		1.62	students	900.00	1,458.00	
Employment		112.00	acres	77.30	8,657.60	
commercial		400.00	acres	39.00	15,600.00	•
					43,431.39	•
	Ne	Vehicle Fleet Mix	<u> Vix</u>			
Vehicle Type	Percent Type	ë	Non-Catalyst	1 ,	Catalyst	

10,531.61 3,998.42 8,093.40

56,153.64 101,182.40 296,241.60

Total VMT 116,282.13

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.5	0.5
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	6.0	0.0	55.6	4.4.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2

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	Diesel	100.0	100.0	0.0	0.0	100.0	8.3			Customer	7.4	9.9	35.0		
	Catalyst	0.0	0.0	0.0	67.5	0.0	91.7		Commercial	Non-Work	7.4	9.9	35.0		
	O									Commute	9.5	14.7	35.0		
Mix	Non-Catalyst	0.0	0.0	0.0	32.5	0.0	0.0	tions		Home-Other	7.5	7.9	35.0	49.1	
Vehicle Fleet Mix	Percent Type	1.6	0.1	0.0	4.0	0.1	1.2	Travel Conditions	Residential	Home-Shop	7.3	7.1	35.0	18.0	
	ď									Home-Work	10.8	16.8	35.0	32.9	
	Vehicle Type	Heavy-Heavy Truck 33,001-60,000 lbs	Other Bus	Urban Bus	Motorcycle	School Bus	Motor Home				Urban Trip Length (miles)	Rural Trip Length (miles)	Trip speeds (mph)	% of Trips - Residential	% of Trips - Commercial (by land use)

% of Trips - Commercial (by land use)			
Elementary school	20.0	10.0	70.0
Junior high school	20.0	10.0	70.0
Employment	35.0	17.5	47.5
commercial	35.0	17.5	47.5

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Hop Farm\hop farm.urb924

Project Name: Hop Farm

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES							
	ROG	XON	읭	802	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	151.16	25.08	94.76	0.00	0.28	0.28	30,838.55
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	XON	잉	<u>802</u>	PM10	PM2.5	C02
TOTALS (lbs/day, unmitigated)	110.27	92.58	1,064.27	3.02	508.02	95.99	313,277.47
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	ESTIMATES						
	ROG	XON	읭	802	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	261.43	117.66	1,159.03	3.02	508.30	96.27	344,116.02

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source Natural Gas Hearth - No Summer Emissions Landscape	1.86 14.40	NOx 24.12 0.96	10.74	0.00	0.05 0.23	0.05 0.23	30,702.01
Consumer Products Architectural Coatings TOTALS (lbs/day, unmitigated)	93.69	25.08	94.76	0.00	0.28	0.28	30,838.55

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	00	802	PM10	PM25	CO2
Single family housing	43.52	36.01	418.79	1.19	199.42	37.69	123,116.76
Apartments low rise	4.10	3.26	37.93	0.11	18.06	3.41	11,150.62
Elementary school	3.37	1.29	14.56	0.04	98.9	1.30	4,233.52
Junior high school	5.72	2.59	29.13	0.08	13.88	2.62	8,551.01
Employment	19.23	17.64	201.24	0.57	96.29	18.19	59,326.33
commercial	34.33	31.79	362.62	1.03	173.51	32.78	106,899.23
TOTALS (lbs/day, unmitigated)	110.27	92.58	1,064.27	3.02	508.02	95.99	313,277.47

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Temperature (F): 85 Season: Summer

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

	its Total Trips	00 15,534.81	1,406.98	00 774.00	00 1,458.00	30 8,657.60	15,600.00
	No. Units	1,709.00	206.00	00.009	900.00	77.30	39.00
<u>lses</u>	Trip Rate Unit Type	dwelling units	dwelling units	students	students	acres	acres
Summary of Land Uses		9.09	6.83	1.29	1.62	112.00	400.00
Sun	Acreage	569.67	12.88				
	Land Use Type	Single family housing	Apartments low rise	Elementary school	Junior high school	Employment	commercial

3,998.42 8,093.40

56,153.64 101,182.40 296,241.60

43,431.39

Vehicle Fleet Mix

Total VMT 116,282.13 10,531.61

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.5	0.5
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	6.0	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2

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		Vehicle Fleet Mix	<u>.</u> ≚				
Vehicle Type	ш.	Percent Type	Non-Catalyst		Catalyst	Diesel	
Heavy-Heavy Truck 33,001-60,000 lbs		1.6	0.0		0.0	100.0	
Other Bus		0.1	0.0		0.0	100.0	
Urban Bus		0.0	0.0		0.0	0.0	
Motorcycle		0.4	32.5		67.5	0.0	
School Bus		0.1	0.0		0.0	100.0	
Motor Home		1.2	0.0		91.7	8.3	
		Travel Conditions	<u>NS</u>				
		Residential			Commercial		
Ĭ	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4	
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	9.9	9.9	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				
% of Trips - Commercial (by land use)							
Elementary school				20.0	10.0	70.0	
Junior high school				20.0	10.0	70.0	
Employment				35.0	17.5	47.5	
commercial				35.0	17.5	47.5	

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Hop Farm\hop farm.urb924

Project Name: Hop Farm

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AKEA SOURCE EMISSION ESTIMATES							
	ROG	XON	8	<u>802</u>	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	522.00	70.31	2,040.07	6.32	325.89	313.68	94,735.92
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NON	3	802	PM10	PM2.5	C02
TOTALS (lbs/day, unmitigated)	119.14	134.47	1,141.84	2.71	508.02	95.99	273,305.91
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	ESTIMATES						
	ROG	NOX	3	802	PM10	PM2.5	C02
TOTALS (lbs/day, unmitigated)	641.14	204.78	3,181.91	9.03	833.91	409.67	368,041.83

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	Ň	0	<u>SO2</u>	PM10	PM2.5	<u>CO2</u>
Natural Gas	1.86	24.12	10.74	0.00	0.05	0.05	30,702.01
Hearth	385.24	46.19	2,029.33	6.32	325.84	313.63	64,033.91
Landscaping - No Winter Emissions							
Consumer Products	93.69						
Architectural Coatings	41.21						
TOTALS (lbs/day, unmitigated)	522.00	70.31	2,040.07	6.32	325.89	313.68	94,735.92

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	XON	00	S02	PM10	PM25	CO2
Single family housing	45.77	52.36	446.06	1.07	199.42	37.69	107,426.94
Apartments low rise	4.14	4.74	40.40	0.10	18.06	3.41	9,729.60
Elementary school	1.79	1.87	16.12	0.04	98.9	1.30	3,694.01
Junior high school	3.50	3.75	32.04	0.07	13.88	2.62	7,458.98
Employment	22.82	25.61	216.72	0.51	96.29	18.19	51,749.58
commercial	41.12	46.14	390.50	0.92	173.51	32.78	93,246.80
TOTALS (lbs/day, unmitigated)	119.14	134.47	1,141.84	2.71	508.02	95.99	273,305.91

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Uses	
of Land	
Summary	
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	Summ	Summary of Land Uses	ses				
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT	
Single family housing	269.67	9.09	9.09 dwelling units	1,709.00	15,534.81	116,282.13	
Apartments low rise	12.88	6.83	6.83 dwelling units	206.00	1,406.98	10,531.61	
Elementary school		1.29	students	00.009	774.00	3,998.42	
Junior high school		1.62	students	900.00	1,458.00	8,093.40	
Employment		112.00	acres	77.30	8,657.60	56,153.64	
commercial		400.00	acres	39.00	15,600.00	101,182.40	
					43,431.39	296,241.60	
	<i>></i>	Vehicle Fleet Mix	<u> </u>				
Vehicle Type	Percent Type	ype	Non-Catalyst	st	Catalyst	Diesel	
Light Auto	•	39.9	O	0.0	100.0	0.0	
Light Truck < 3750 lbs	·	19.1	O	0.0	99.5	0.5	
Light Truck 3751-5750 lbs	·	19.7	O	0.0	100.0	0.0	
Med Truck 5751-8500 lbs		9.3	O	0.0	100.0	0.0	
Lite-Heavy Truck 8501-10,000 lbs		2.5	O	0.0	80.0	20.0	
Lite-Heavy Truck 10,001-14,000 lbs		6.0	O	0.0	55.6	44.4	
Med-Heavy Truck 14,001-33,000 lbs		1.6	Ó	0.0	18.8	81.2	

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		Vehicle Fleet Mix	t Mix				
Vehicle Type		Percent Type	Non-Catalyst		Catalyst	Diesel	
Heavy-Heavy Truck 33,001-60,000 lbs		9.1	0.0		0.0	100.0	
Other Bus		0.1	0.0		0.0	100.0	
Urban Bus		0.0	0.0		0.0	0.0	
Motorcycle		0.4	32.5		67.5	0.0	
School Bus		0.1	0.0		0.0	100.0	
Motor Home		1.2	0.0		91.7	8.3	
		Travel Conditions	litions				
		Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4	
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	9.9	9.9	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				
% of Trips - Commercial (by land use)							
Elementary school				20.0	10.0	70.0	
Junior high school				20.0	10.0	70.0	
Employment				35.0	17.5	47.5	
commercial				35.0	17.5	47.5	

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Johnson Rancho\Johnson Rancho.urb924

Project Name: Johnson Rancho

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

	ROG	Ň	잉	<u>802</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	264.56	39.40	603.15	1.68	87.07	83.81	50,983.13
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX	0	<u>SO2</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	88.91	83.50	857.23	2.30	399.47	75.48	235,978.77
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	ESTIMATES						
	ROG	NOx	0	<u>SO2</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	353.47	122.90	1,460.38	3.98	486.54	159.29	286,961.90

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>CO2</u>	36,629.88	14,273.79	79.46			50,983.13
PM2.5	0.05	83.63	0.13			83.81
PM10	0.05	86.89	0.13			87.07
<u>802</u>	0.00	1.68	0.00			1.68
잉	12.43	541.33	49.39			603.15
NOX	28.72	10.12	0.56			39.40
ROG	2.22	102.90	8.86	111.44	39.14	264.56
						(pa)
Source				roducts	I Coatings	FOTALS (tons/year, unmitigated)
	Natural Gas	Hearth	Landscape	Consumer Products	Architectural Coatings	TOTALS (to

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	XON	00	S02	PM10	PM25	C02
Single family housing	57.30	53.67	553.84	1.49	258.12	48.78	152,589.45
Apartments low rise	1.31	1.20	12.36	0.03	5.76	1.09	3,405.22
Elementary school	2.60	1.36	13.76	0.04	6.26	1.18	3,698.99
Junior high school	0.91	0.54	5.49	0.01	2.53	0.48	1,494.13
Employment	9.50	9.44	00.96	0.26	44.79	8.46	26,418.23
Commercial	17.29	17.29	175.78	0.47	82.01	15.49	48,372.75
TOTALS (tons/year, unmitigated)	88.91	83.50	857.23	2.30	399.47	75.48	235,978.77

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Season: Annual

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

Uses
Land
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	Summa	Summary of Land Uses	ies				
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT	
Single family housing	4,040.33	9.09	9.09 dwelling units	12,121.00	110,179.89	824,725.41	
Apartments low rise	22.50	6.83	6.83 dwelling units	360.00	2,458.80	18,404.76	
Elementary school		1.29	students	3,000.00	3,870.00	19,992.11	
Junior high school		1.62	students	900.006	1,458.00	8,093.40	
Employment		112.00	acres	197.00	22,064.00	143,108.23	
Commercial		400.00	acres	101.00	40,400.00	262,036.47	
					180,430.69	1,276,360.38	
	<u> </u>	Vehicle Fleet Mix	<u>XI</u>				
Vehicle Type	Percent Type	,be	Non-Catalyst	+- -	Catalyst	Diesel	
Light Auto	Š	39.9	0.0	0	100.0	0.0	
Light Truck < 3750 lbs	15	19.1	0.0	0	9.66	0.5	
Light Truck 3751-5750 lbs	15	19.7	0.0	0	100.0	0.0	
Med Truck 5751-8500 lbs	o,	9.3	0.0	0	100.0	0.0	
Lite-Heavy Truck 8501-10,000 lbs	•	2.5	0.0	0	80.0	20.0	
Lite-Heavy Truck 10,001-14,000 lbs	J	6.0	0.0	0	55.6	44.4	
Med-Heavy Truck 14,001-33,000 lbs	•	1.6	0.0	0	18.8	81.2	

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		Vehicle Fleet Mix	t Mix				
Vehicle Type		Percent Type	Non-Catalyst		Catalyst	Diesel	
Heavy-Heavy Truck 33,001-60,000 lbs		1.6	0.0		0.0	100.0	
Other Bus		0.1	0.0		0.0	100.0	
Urban Bus		0.0	0.0		0.0	0.0	
Motorcycle		4.0	32.5		67.5	0.0	
School Bus		0.1	0.0		0.0	100.0	
Motor Home		1.2	0.0		91.7	8.3	
		Travel Conditions	litions				
		Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4	
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	9.9	9.9	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				
% of Trips - Commercial (by land use)							
Elementary school				20.0	10.0	70.0	
Junior high school				20.0	10.0	70.0	
Employment				35.0	17.5	47.5	
Commercial				35.0	17.5	47.5	

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Johnson Rancho\Johnson Rancho.urb924

Project Name: Johnson Rancho

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

	ROG	NOX	잉	<u>802</u>	PM10	PM2.5	C02
TOTALS (lbs/day, unmitigated)	935.65	163.59	616.95	0.02	1.76	1.75	201,594.50
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX		<u>807</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	476.32	397.47	4,590.47 13.07	13.07	2,188.86	413.60	1,350,440.29
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	ESTIMATES						
	ROG	NOX	0	<u>802</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,411.97	561.06	5,207.42	13.09	2,190.62	415.35	1,552,034.79

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

		(d), (garea					
Source	ROG	XON	잉	<u>802</u>	PM10	PM2.5	<u>CO2</u>
Natural Gas	12.14	157.39	68.14	0.00	0.30	0.30	200,711.66
Hearth - No Summer Emissions							
Landscape	98.41	6.20	548.81	0.02	1.46	1.45	882.84
Consumer Products	610.61						
Architectural Coatings	214.49						
TOTALS (lbs/day, unmitigated)	935.65	163.59	616.95	0.02	1.76	1.75	201,594.50

Area Source Changes to Defaults

8 66.29 29.13 939.09 2,970.28 72.81 512.87 OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated 255.42 5.70 2.59 44.96 82.33 XON 6.47 308.68 88.90 ROG 7.17 16.85 5.72 49.00 Operational Unmitigated Detail Report: Source Single family housing Apartments low rise Elementary school Junior high school Employment Commercial

C02

PM25 267.29 5.96 6.48 2.62 46.36 84.89

PM10

SO2 8.46 0.19

1,414.37

31.56 34.29 13.88 245.41 449.35

> 0.20 0.08

873,199.67 19,486.53 21,167.59

8,551.01

151,193.89 276,841.60 1,350,440.29

1.46

2.68 13.07

413.60

2,188.86

4,590.47

397.47

476.32

TOTALS (lbs/day, unmitigated)

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Temperature (F): 85 Season: Summer

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

	Summar	Summary of Land Uses	ses		
Land Use Type	Acreage	Trip Rate	Trip Rate Unit Type	No. Units	Total Trips
Single family housing	4,040.33	60.6	9.09 dwelling units	12,121.00	110,179.89
Apartments low rise	22.50	6.83	6.83 dwelling units	360.00	2,458.80
Elementary school		1.29	students	3,000.00	3,870.00
Junior high school		1.62	students	900.00	1,458.00
Employment		112.00	acres	197.00	22,064.00
Commercial		400.00	acres	101.00	40,400.00
					180,430.69
	\ \ \	Vehicle Fleet Mix	Μix		

824,725.41 18,404.76

Total VMT

8,093.40

143,108.23 262,036.47 1,276,360.38

19,992.11

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.5	0.5
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	6:0	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2

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	Catalyst Diesel	0.0 100.0	0.0 100.0	0.0	67.5	0.0 100.0	91.7		Commercial	Commute Non-Work Customer	9.5 7.4 7.4	14.7 6.6 6.6	35.0 35.0 35.0			20.0 10.0 70.0	20.0 10.0 70.0	35.0 17.5 47.5	35.0 17.5 47.5
Mix	Non-Catalyst	0.0	0.0	0.0	32.5	0.0	0.0	tions		Home-Other	7.5	7.9	35.0	49.1					
Vehicle Fleet Mix	Percent Type	1.6	0.1	0.0	0.4	0.1	1.2	Travel Conditions	Residential	Home-Shop	7.3	7.1	35.0	18.0					
										Home-Work	10.8	16.8	35.0	32.9					
	Vehicle Type	Heavy-Heavy Truck 33,001-60,000 lbs	Other Bus	Urban Bus	Motorcycle	School Bus	Motor Home				Urban Trip Length (miles)	Rural Trip Length (miles)	Trip speeds (mph)	% of Trips - Residential	% of Trips - Commercial (by land use)	Elementary school	Junior high school	Employment	Commercial

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Johnson Rancho\Johnson Rancho.urb924

Project Name: Johnson Rancho

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

TOTALS (lbs/day, unmitigated)	ROG 3,348.12	NOx 459.95	CO 13,294.95	<u>SO2</u> 41.21	PM10 2,124.06	PM2.5 2,044.53	CO2 619,959.68
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX		<u>802</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	508.96	577.54	4,910.54	11.70	2,188.86	413.60	1,178,222.35
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	ESTIMATES						
	ROG	NOX		<u>802</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3,857.08	1,037.49	18,205.49	52.91	4,312.92	2,458.13	1,798,182.03

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>CO2</u>	200,711.66	119,248.02				619,959.68
	2	4				Ö
PM2.5	0.30	2,044.23				2,044.53
PM10	0.30	2,123.76				2,124.06
Ш		2,12				2,12
<u>807</u>	0.00	41.21				41.21
01	_					
잉	68.14	13,226.81				13,294.95
XON	157.39	302.56				459.95
	15.	30%				459
ROG	12.14	2,510.88		610.61	214.49	3,348.12
		2				က
			missions			ited)
Source			lo Winter E	ncts	atings	y, unmitiga
(C)	Natural Gas	-	Landscaping - No Winter Emissions	Consumer Products	Architectural Coatings	FOTALS (lbs/day, unmitigated)
	Natur	Hearth	Lands	Const	Archit	TOTA

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	XON	00	S02	PM10	PM25	C02
Single family housing	324.59	371.39	3,163.68	7:57	1,414.37	267.29	761,920.36
Apartments low rise	7.24	8.29	70.60	0.17	31.56	5.96	17,003.19
Elementary school	8.97	9.35	80.61	0.18	34.29	6.48	18,470.07
Junior high school	3.50	3.75	32.04	0.07	13.88	2.62	7,458.98
Employment	58.16	65.26	552.31	1.31	245.41	46.36	131,884.45
Commercial	106.50	119.50	1,011.30	2.40	449.35	84.89	241,485.30
TOTALS (lbs/day, unmitigated)	508.96	577.54	4,910.54	11.70	2,188.86	413.60	1,178,222.35

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Temperature (F): 40 Season: Winter

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

	Summary	Summary of Land Uses	ses		
Land Use Type	Acreage	Trip Rate	Trip Rate Unit Type	No. Units	Total Trips
Single family housing	4,040.33	60.6	9.09 dwelling units	12,121.00	110,179.89
Apartments low rise	22.50	6.83	6.83 dwelling units	360.00	2,458.80
Elementary school		1.29	students	3,000.00	3,870.00
Junior high school		1.62	students	900.00	1,458.00
Employment		112.00	acres	197.00	22,064.00
Commercial		400.00	acres	101.00	40,400.00
					180,430.69
	Veh	Vehicle Fleet Mix	Mix		

824,725.41 18,404.76 19,992.11 8,093.40

143,108.23 262,036.47 1,276,360.38

Total VMT

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.5	0.5
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.3	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	6.0	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2

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Vehicle Fleet Mix	Percent Type Non-Catalyst Catalyst Diesel	1.6 0.0 100.0 100.0	0.1 0.0 100.0 100.0	0.0 0.0 0.0	4.0 32.5 67.5 0.0	0.0 0.0 100.0	1.2 0.0 91.7 8.3	Travel Conditions	Residential	Home-Shop Home-Other Commute Non-Work Customer	7.3 7.5 9.5 7.4 7.4	7.1 7.9 14.7 6.6 6.6	35.0 35.0 35.0 35.0 35.0	18.0 49.1		20.0 10.0 70.0	20.0 10.0 70.0	35.0 17.5 47.5	350 175 175
	-Catalyst	0.0	0.0	0.0	32.5	0.0	0.0				7.5			49.1					
icle Fleet Mix		9	_	0	0	_	2	vel Conditions	_		7.3	7.1							
Vehi	Percent Type	1.6	0	0.0	4.0	. 0	7	Trav	Residentia		10.8	16.8	35.0	32.9					
		sql 00								Home-Work					(esn				
		Heavy-Heavy Truck 33,001-60,000 lbs									Urban Trip Length (miles)	Rural Trip Length (miles)	Trip speeds (mph)	% of Trips - Residential	% of Trips - Commercial (by land use)	Elementary school	Junior high school		

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Johnson Rancho with Hop Farm\Johnson Rancho with Hop Farm.urb924

Project Name: Johnson Rancho plus Hop Farm

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

	ROG	NOX		<u>807</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	306.56	45.44	695.04	1.93	100.43	29.96	58,787.19
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX		<u>SO2</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	109.57	102.95	1,056.18	2.83	492.19	93.01	290,720.28
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	ESTIMATES						
	ROG	NOX	0	<u>807</u>	<u>PM10</u>	PM2.5	<u>CO2</u>
TOTALS (tons/year, unmitigated)	416.13	148.39	1,751.22	4.76	592.62	189.68	349,507.47

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>CO2</u>	42,232.99	16,463.72	90.48			58,787.19
PM2.5	90.0	96.46	0.15			29.96
PM10	90.0	100.22	0.15			100.43
<u>802</u>	0.00	1.93	0.00			1.93
잉	14.39	624.39	56.26			695.04
XON	33.13	11.67	0.64			45.44
ROG	2.56	118.70	10.10	128.53	46.67	306.56
Source	Natural Gas	Hearth	Landscape	Consumer Products	Architectural Coatings	TOTALS (tons/year, unmitigated)

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

PM10 PM25 CO2	4)	1.71		5.07 0.96 2,988.25	11.78	113.67 21.48 67,051.34	
S02	1.70	0.05	0.04	0.03	0.36	0.65	
00	631.93	19.43	16.51	10.99	133.67	243.65	
XON	61.24	1.88	1.63	1.09	13.15	23.96	
ROG	65.38	2.06	3.11	1.82	13.23	23.97	
Source	Single family housing	Apartments low rise	Elementary school	Junior high school	Employment	Commercial	

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Season: Annual

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

	Summ	Summary of Land Uses	ses			
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	4,610.00	60.6	9.09 dwelling units	13,830.00	125,714.70	941,007.54
Apartments low rise	35.38	6.83	6.83 dwelling units	566.00	3,865.78	28,936.38
Elementary school		1.29	students	3,600.00	4,644.00	23,990.53
Junior high school		1.62	students	1,800.00	2,916.00	16,186.80
Employment		112.00	acres	274.30	30,721.60	199,261.86
Commercial		400.00	acres	140.00	56,000.00	363,218.87
					223,862.08	1,572,601.98
	>	Vehicle Fleet Mix	Mix			
Vehicle Type	Percent Type	ype	Non-Catalyst	yst	Catalyst	Die
Light Auto		39.9		0.0	100.0	U
Light Truck < 3750 lbs	•	19.1		0.0	99.5	U
Light Truck 3751-5750 lbs	•	19.7		0.0	100.0	U

0.0

44.4

100.0

0.0

9.3 0.9 1.6

0.0

Lite-Heavy Truck 10,001-14,000 lbs Med-Heavy Truck 14,001-33,000 lbs

Lite-Heavy Truck 8501-10,000 lbs

Med Truck 5751-8500 lbs

55.6

0.0

0.5

Diesel

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	Diesel	100.0	100.0	0.0	0.0	100.0	8.3			Customer	7.4	9.9	35.0			70.0	70.0	47.5	47.5
	Catalyst	0.0	0.0	0.0	67.5	0.0	91.7		Commercial	Non-Work	7.4	9.9	35.0			10.0	10.0	17.5	17.5
	Ö								0	Commute	9.5	14.7	35.0			20.0	20.0	35.0	35.0
Mix	Non-Catalyst	0.0	0.0	0.0	32.5	0.0	0.0	Suoi		Home-Other	7.5	7.9	35.0	49.1					
Vehicle Fleet Mix	Percent Type	1.6	0.1	0.0	4.0	0.1	1.2	Travel Conditions	Residential	Home-Shop	7.3	7.1	35.0	18.0					
										Home-Work	10.8	16.8	35.0	32.9					
	Vehicle Type	Heavy-Heavy Truck 33,001-60,000 lbs	Other Bus	Urban Bus	Motorcycle	School Bus	Motor Home				Urban Trip Length (miles)	Rural Trip Length (miles)	Trip speeds (mph)	% of Trips - Residential	% of Trips - Commercial (by land use)	Elementary school	Junior high school	Employment	Commercial

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Johnson Rancho with Hop Farm\Johnson Rancho with Hop Farm.urb924

Project Name: Johnson Rancho plus Hop Farm

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version: Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

	ROG	NOX	잉	802	PM10	PM2.5	C02
TOTALS (lbs/day, unmitigated)	1,086.20	188.57	703.98	0.03	2.01	1.99	232,419.01
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX	잉	<u>802</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	586.61	490.06	5,654.75	16.12	2,696.88	509.62	1,663,717.75
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	N ESTIMATES						
	ROG	×ON	8	<u>SO2</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1,672.81	678.63	6,358.73	16.15	2,698.89	511.61	1,896,136.76

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

PM10 PM2.5 CO2	0.35 0.34 231,413.67		1.66 1.65 1,005.34			2.01 1.99 232,419.01
	0.00		0.03			0.03
SI	0 88.82					
			7.06 625.10			57 703.98
NOX	0 181.51			0	0	0 188.57
ROG	14.00		112.20	704.30	255.70	1,086.20
Source	Natural Gas	Hearth - No Summer Emissions	Landscape	Consumer Products	Architectural Coatings	TOTALS (lbs/day, unmitigated)

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	90	XON	00	SO2	PM10	PM25	CO2
352.20	20	291.43	3,389.07	9.65	1,613.79	304.97	996,316.43
11.28	28	8.96	104.22	0:30	49.62	9.38	30,637.15
20.22	22	7.76	87.37	0.25	41.15	7.78	25,401.11
11.45	45	5.18	58.27	0.17	27.76	5.25	17,102.02
68.23	23	62.61	714.12	2.04	341.70	64.56	210,520.21
123.23	23	114.12	1,301.70	3.71	622.86	117.68	383,740.83
TOTALS (lbs/day, unmitigated) 586.61	61	490.06	5,654.75	16.12	2,696.88	509.62	1,663,717.75

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year; 2035 Temperature (F): 85 Season; Summer

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

Uses
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	Summa	Summary of Land Uses	S				
Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT	
Single family housing	4,610.00	9.09 dv	9.09 dwelling units	13,830.00	125,714.70	941,007.54	
Apartments low rise	35.38	6.83 d\	6.83 dwelling units	566.00	3,865.78	28,936.38	
Elementary school		1.29	students	3,600.00	4,644.00	23,990.53	
Junior high school		1.62	students	1,800.00	2,916.00	16,186.80	
Employment		112.00	acres	274.30	30,721.60	199,261.86	
Commercial		400.00	acres	140.00	56,000.00	363,218.87	
					223,862.08	1,572,601.98	
	Š	Vehicle Fleet Mix	×I				
Vehicle Type	Percent Type	/be	Non-Catalyst	st	Catalyst	Diesel	
Light Auto	ဇ	39.9	0	0.0	100.0	0.0	
Light Truck < 3750 lbs	_	19.1	0	0.0	99.5	0.5	
Light Truck 3751-5750 lbs	_	19.7	0	0.0	100.0	0.0	
Med Truck 5751-8500 lbs		9.3	0	0.0	100.0	0.0	
Lite-Heavy Truck 8501-10,000 lbs		2.5	0	0.0	80.0	20.0	
Lite-Heavy Truck 10,001-14,000 lbs		6.0	0	0.0	55.6	44.4	
Med-Heavy Truck 14,001-33,000 lbs		1.6	0	0.0	18.8	81.2	

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Vehicle Type		Vehicle Fleet Mix Percent Type	<u>t Mix</u> Non-Catalyst		Catalyst	Diesel	
Heavy-Heavy Truck 33,001-60,000 lbs		1.6	0.0		0.0	100.0	
		0.1	0.0		0.0	100.0	
Urban Bus		0.0	0.0		0.0	0.0	
Motorcycle		0.4	32.5		67.5	0.0	
School Bus		0.1	0.0		0.0	100.0	
Motor Home		1.2	0.0		91.7	8.3	
		Travel Conditions	litions				
		Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4	
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	9.9	9.9	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				
% of Trips - Commercial (by land use)							
Elementary school				20.0	10.0	70.0	
Junior high school				20.0	10.0	70.0	
Employment				35.0	17.5	47.5	
Commercial				35.0	17.5	47.5	

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\Projects\Active\Wheatland\Johnson Rancho\Technical Reports\Air Quality\Johnson Rancho with Hop Farm\Johnson Rancho with Hop Farm.urb924

Project Name: Johnson Rancho plus Hop Farm

Project Location: Feather River AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

	ROG	NOX	잉	<u>SO2</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	3,870.11	530.27	15,335.03	47.54	2,449.94	2,358.20	714,695.60
OPERATIONAL (VEHICLE) EMISSION ESTIMATES							
	ROG	NOX	8	<u>807</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	628.12	712.02	6,052.39	14.42	2,696.88	509.62	1,451,528.25
SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES	V ESTIMATES						
	ROG	NOX	잉	<u>807</u>	PM10	PM2.5	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	4,498.23	1,242.29	21,387.42	61.96	5,146.82	2,867.82	2,166,223.85

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>CO2</u>	231,413.67	483,281.93				714,695.60
PM2.5	0.34	2,357.86				2,358.20
<u>PM10</u>	0.35	2,449.59				2,449.94
<u>807</u>	0.00	47.54				47.54
잉	78.88	15,256.15				15,335.03
NOX	181.51	348.76				530.27
ROG	14.00	2,896.11		704.30	255.70	3,870.11
Source	Natural Gas	Hearth	Landscaping - No Winter Emissions	Consumer Products	Architectural Coatings	TOTALS (lbs/day, unmitigated)

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	XON	00	802	PM10	PM25	C02
Single family housing	370.36	423.76	3,609.75	8.64	1,613.79	304.97	869,347.30
Apartments low rise	11.39	13.03	111.00	0.27	49.62	9.38	26,732.79
Elementary school	10.76	11.22	96.73	0.22	41.15	7.78	22,164.09
Junior high school	6.99	7.50	64.07	0.15	27.76	5.25	14,917.95
Employment	80.99	90.87	769.03	1.82	341.70	64.56	183,634.02
Commercial	147.63	165.64	1,401.81	3.32	622.86	117.68	334,732.10
TOTALS (lbs/day, unmitigated)	628.12	712.02	6,052.39	14.42	2,696.88	509.62	1,451,528.25

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Includes correction for passby trips

Includes the following double counting adjustment for internal trips:

Residential Trip % Reduction: 0.00 Nonresidential Trip % Reduction: 0.00

Analysis Year: 2035 Temperature (F): 40 Season: Winter

Emfac: Version: Emfac2007 V2.3 Nov 1 2006

	nits Total Trips	125,714.70	3,865.78	0.00 4,644.00	2,916.00	274.30 30,721.60	140.00 56,000.00	223,862.08
	No. Units	13,830.00	566.00	3,600.00	1,800.00			
<u>Jses</u>	Trip Rate Unit Type	9.09 dwelling units	6.83 dwelling units	students	students	acres	acres	
Summary of Land Uses		60.6	6.83	1.29	1.62	112.00	400.00	
Sun	Acreage	4,610.00	35.38					
	Land Use Type	Single family housing	Apartments low rise	Elementary school	Junior high school	Employment	Commercial	

941,007.54 28,936.38 23,990.53

16,186.80 199,261.86 363,218.87 1,572,601.98

Total VMT

	Vehicle Fleet Mix	et Mix		
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	39.9	0.0	100.0	0.0
Light Truck < 3750 lbs	19.1	0.0	99.5	0.5
Light Truck 3751-5750 lbs	19.7	0.0	100.0	0.0
Med Truck 5751-8500 lbs	6.9	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	80.0	20.0
Lite-Heavy Truck 10,001-14,000 lbs	6.0	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2

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Mix	Non-Catalyst	0.0
Vehicle Fleet Mix	Percent Type	1.6
	Vehicle Type	Heavy-Heavy Truck 33,001-60,000 lbs

Vehicle Type	ш.	Percent Type	Non-Catalyst	O	Catalyst	Diesel	
Heavy-Heavy Truck 33,001-60,000 lbs		9.1	0.0		0.0	100.0	
Other Bus		0.1	0.0		0.0	100.0	
Urban Bus		0.0	0.0		0.0	0.0	
Motorcycle		0.4	32.5		67.5	0.0	
School Bus		0.1	0.0		0.0	100.0	
Motor Home		1.2	0.0		91.7	8.3	
		Travel Conditions	ions				
		Residential			Commercial		
_	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer	
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4	
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	9.9	9.9	
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0	
% of Trips - Residential	32.9	18.0	49.1				
% of Trips - Commercial (by land use)							
Elementary school				20.0	10.0	70.0	
Junior high school				20.0	10.0	70.0	
Employment				35.0	17.5	47.5	
Commercial				35.0	17.5	47.5	

GHG analysis for the Johnson Rancho Project

1. Potential GHG emissions summary:

The following is the potential GHG emissions including URBEMIS modeling analysis and utility usage from the proposed project upon buildout:

Emission Source	CO ₂ emissions (tons/yr)
Area Source ₁	58,787.19
Vehicle Emissions ₁	290,720.28
Utility Usage ₂	149,256.65
Total	498,764.12
/B : 1 111 : 2007	1.1. 1.0. 1.4DEID

¹ Project's Urbemis 2007 modeling results from the ADEIR.

2. Calculations:

Size of the proposed project

Residential: 14,396 units

Commercial: 131 acres, 65.5 usable acres [based on the Wheatland General Plan floor-to-area

ratio (FAR)]

Office: 298.3 acres, 149.2 usable acres (based on the Wheatland General Plan FAR) *Education*: 95 acres, 47.5 usable acres (based on the Wheatland General Plan FAR)

Electricity Usage

PG&E CO₂ emission rates for electricity: 0.524 lbs CO₂ per kW-hr

Residential

Average electricity usage for a residential unit¹ per month: 540 kW-hr

CO₂ emissions from residential electricity usage for proposed project per year:

540 kW-hr	0.524 lbs CO ₂	12 months	1 ton	14,396 units	= 24,440.95 tons
1 month - unit	kW-hr	1 year	2,000 lbs	project	CO2 per year (Residential)

²Includes electric and natural gas CO₂ emissions. Please see following calculations.

¹ PG&E carbon footprint calculation factsheet.

Commercial

Annual Electricity Intensity Based On Principal Building Activity²: 14.3 kWh/ft²

CO₂ emissions from commercial electricity usage for proposed project per year:

	0.524 lbs			_	$= 7,752.09 \text{ tons } CO_2$
14.3 kW-hr	CO ₂	1 ton	47.5 acres	$43,560 \text{ ft}^2$	per year
ft² - year	kW-hr	2,000 lbs	project	acre	(Commercial)

Office

Annual Electricity Intensity Based On Principal Building Activity³: 17.3 kWh/ft²

CO₂ emissions from office electricity usage for proposed project per year:

	0.524 lbs				= 29,458.06 tons
17.3 kW-h	r CO ₂	1 ton	149.2 acres	$43,560 \text{ ft}^2$	CO2 per year
ft ² - year	kW-hr	2,000 lbs	project	acre	(Office)

Education

Annual Electricity Intensity Based On Principal Building Activity⁴: 11 kWh/ft²

CO₂ emissions from education electricity usage for proposed project per year:

	0.524 lbs			_	= 5,963.15 tons CO ₂
11 kW-hr	CO ₂	1 ton	47.5 acres	$43,560 \text{ ft}^2$	per year
ft ² - year	kW-hr	2,000 lbs	project	acre	(Education)

Total CO2 emissions from electricity usage:

$$(24,440.95 + 7,755.40 + 29,470.62 + 5,965.69) = 67,632.66$$
 tons CO₂ per year (Total Project)

Natural Gas Usage

PG&E CO₂ emission rates for natural gas: 13.446 lbs CO₂ per therm

Residential

Average natural gas usage for a residential unit⁵ per month: 45 therms

² California Climate Action Registry General Reporting Protocol, Version 3.1, http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf, accessed September 9, 2010.

 $[\]frac{1}{3}$ *Ibid*.

⁴ *Ibid*.

CO₂ emissions from residential natural gas usage for proposed project per year:

45 therms	13.446 lbs CO ₂	12 months	1 ton	14,396 units	= 52,263.52 tons
1 month - unit	1 therm	1 year	2,000 lbs	project	CO2 per year (Residential)

Commercial

Average Annual Natural Gas Consumption Per Consumer ⁶ for commercial: 591 thousand cubic ft

The project assumes 220 commercial consumers

65.5 usable acres	43,560 ft ²	1 consumer	= 220 consumers
	acre	13,000 ft ^{2 7}	

CO₂ emissions from commercial natural gas usage for proposed project per year:

591,000 cubic ft	1 therm	13.446 lbs CO ₂	1 ton	220 consumers	= 8,740.60 tons
year - consumer	100 cubic ft	1 therm	2,000 lbs		CO2 per year (Commercial)

Office

Average Annual Natural Gas Consumption Per Consumer ⁸ for office: 591 thousand cubic ft

The project assumes 436 office consumers

1 5			
149.2 usable acres	$43,560 \text{ ft}^2$	1 consumer	= 436 consumers
	acre	14,900 ft ^{2 9}	

⁶ Energy Information Administration, Official Energy Statistics from the U.S. Government, 2007 Number of Natural Gas Consumers, http://tonto.eia.doe.gov/dnav/ng/ng cons num dcu SCA a.htm, accessed September 24, 2009.

http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbawebsite/retailserv/retserv_howlarge.htm, accessed September 9, 2010.

⁵ PG&E carbon footprint calculation factsheet.

⁷ US Energy Information Administration, Independent Statistics and Analysis, Commercial Buildings Energy Consumption Survey, 2001,

http://www.eia.doe.gov/emeu/consumptionbriefs/cbecs/pbawebsite/retailserv/retserv_howlarge.htm, accessed September 9, 2010.

⁸ Energy Information Administration, Official Energy Statistics from the U.S. Government, 2007 Number of Natural Gas Consumers, http://tonto.eia.doe.gov/dnav/ng/ng cons num dcu SCA a.htm, accessed September 24, 2009.

⁹ US Energy Information Administration, Independent Statistics and Analysis, Commercial Buildings Energy Consumption Survey, 2001,

CO₂ emissions from office natural gas usage for proposed project per year:

591,000 cubic ft	1 therm	13.446 lbs CO ₂	1 ton	436 consumers	= 17,322.28 tons
year - consumer	100 cubic ft	1 therm	2,000 lbs		CO2 per year (Office)

Education

Average Annual Natural Gas Consumption Per Consumer ¹⁰ for education: 591 thousand cubic ft The project proposes to have 8 education facilities, therefore assumes 8 consumers

CO₂ emissions from education natural gas usage for proposed project per year:

= 317.86 tons	8 consumers	1 ton	13.446 lbs CO ₂	1 therm	591,000 cubic ft
CO2 per year (Education)		2,000 lbs	1 therm	100 cubic ft	year - consumer

Total CO2 emissions from natural gas usage:

(52,263.52 + 8,740.60 + 17,322.28 + 317.86) = 78,644.26 tons CO₂ per year (Total Project)

Total CO₂ emissions from utility usage from the proposed project:

(67,632.66 + 78,644.26) = 146,276.92tons CO₂ per year

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¹⁰ Energy Information Administration, Official Energy Statistics from the U.S. Government, 2007 Number of Natural Gas Consumers, http://tonto.eia.doe.gov/dnav/ng/ng_cons_num_dcu_SCA_a.htm, accessed September 24, 2009.